

## OPINION

Regarding the PhD thesis for awarding the educational and scientific degree "doctor", field of higher education - 7. Healthcare and sports, professional direction: 7.1. Medicine, Doctoral Program "Dermatology and Venereology"

To Dr. Radka Tsokova Maslarska, full-time doctoral student at the Department of Dermatology and Venereology at the Faculty of Medicine of the Medical University of Sofia, with supervisor: Prof. Dr. Zdravka Velichkova Demerdzhieva, MD, PhD, DSc.

PhD thesis topic: Hemangiomas of infancy and in early childhood -innovative treatment and follow-up.

Opinion is prepared by: Assoc. Prof. Ivan Asenov Bogdanov, MD, PhD, Department of Dermatology and Venereal at Achibadem City Clinic Tokuda University Hospital

Infantile hemangiomas (IH) are the most common benign tumors in newborns, with a higher incidence in premature infants. Despite the benign course of this type of tumors and the spontaneous evolution in about 90% of all the cases, it is possible their appearance to lead to complications. The main risks associated with this formations are related to their localization in areas close to important physiological processes such as nutrition, breathing and sensory functions, as well as a significant increase in size and development of ulcerations. This necessitates the application of an interdisciplinary approach with teams of neonatologists, pediatricians and dermatologists for timely diagnostics and adequate treatment of the special IH forms.

The modern therapeutic approach for the IH treatment with systemic administration of propranolol has been introduced into clinical practice in 2008 by Prof. Christine Leaute-Labreze's team, completely changed the therapeutic paradigm. Conventional therapy used until now and associated with serious side effects has been successfully replaced by a highly effective and relatively safe treatment method. Undoubtedly, this is one of the most significant developments in the field of dermatology since the beginning of the new century. Studies in this field continue to be extremely relevant, and the application of their results contributes to a great extent to the improvement of the prognosis and quality of life of patients with special and risky IH forms.

Regardless of the serious challenge that the development of this current topic represents, Dr. Radka Tsokova Maslarska managed to fulfil the tasks set and presents the PhD thesis for the scientific and educational degree "Doctor" entitled "Hemangiomas in infancy and early childhood - innovative treatment and follow up".

The dissertation is written on 156 pages, distributed as follows: Table of contents - 2 pages, Abbreviations used - 1 page, Introduction - 3 pages, Literature review - 42 pages, Aim and tasks - 1 page, Materials and methods - 5 p., Results – 56 p., Discussion – 5 p., Conclusions – 2 p., Contributions – 2 p., Recommendations – 2 p. Literature – 19 p., Appendices 9 p.

The work is illustrated with 32 tables and 80 figures. 4 applications are presented to it.

The literary review contains 163 sources, 2 in Cyrillic, 161 in Latin.

**The goal** of the PhD thesis, as well as the tasks arising from it, are formulated precisely and clearly.

### **Materials and methods**

The clinical status of 276 children with hemangiomas has been studied. The etiological factors for the IH occurrence have been investigated. Treatment criteria are set. Information is collected on the location, number and type of IH, as well as some connections and correlations.

Therapeutic and diagnostic algorithms for the treatment of IH with propranolol have been prepared and follow-up of patients with optimization of the dose regimen has been carried out.

Statistical data processing is performed using specialized software.

### **Results**

They are illustrated with graphs and clinical photos (prior and post therapy). They analytically present the thesis of the dissertation's scientific research.

### **Conclusions and contributions**

The PhD student presents 11 conclusions, 6 recommendations and 11 contributions, which are formulated in details and clearly.

### **Literature**

163 literary sources are presented, of which 2 are in Cyrillic. The sources are listed according to BSS.

### **Critical remarks**

1. Only 2 Cyrillic sources are cited in the dissertation.
2. The PhD thesis of K. Semkova, which examines a similar topic, is not cited.
3. Contributions #5 and #6 can be united.

The critical remarks made in no way detract from the value of Dr. Radka Tsokova Maslarska's dissertation.

### **Conclusion**

Dr. Radka Tsokova Maslarska presents a dissertation for the scientific and educational degree "Doctor of Medicine" on the topic "Hemangiomas in infancy and early childhood - innovative treatment and follow-up".

The topic is a contribution to the significant studies following the introduction of the innovative IH treatment with propranolol, which completely changed the paradigm in the approach to this type of tumors. The PhD student has published 3 scientific articles in connection with the PhD thesis (2 in Bulgaria and 1 abroad).

With her studies, the candidate has popularized this innovative IH therapy that in recent years has been established in Bulgaria as first choice of treatment for this disease. Based on these studies, a clinical multidisciplinary algorithm has been developed for the recognition, diagnostics, treatment and follow-up of children with infantile hemangioma in Bulgaria, which helped to formulate specific proposals for increasing the quality and access to treatment for patients with infantile hemangioma, to be analyzed by healthcare authorities for legislative actions.

All this gives me reason to suggest to the esteemed jury to award Dr. Radka Tsokova Maslarska the scientific and educational degree "Doctor".

19.06.2023

Assoc. Prof. Ivan Asenov Bogdanov, MD, PhD